

**REPORT DOCUMENTATION PAGE**Form Approved  
OMB No. 074-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503

**1. AGENCY USE ONLY (Leave blank)****2. REPORT DATE**

December 2002

**3. REPORT TYPE AND DATES COVERED**

Final (1 Mar 02 - 30 Nov 02)

**4. TITLE AND SUBTITLE**

Biology of Chemical and Biologic Weapons

**5. FUNDING NUMBERS**

DAMD17-02-1-0657

**6. AUTHOR(S) :**

Joseph J. McArdle, Ph.D.

**7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)**New Jersey Medical School  
Newark, New Jersey 07103-2714

E-Mail: mcardle@umdnj.edu

**8. PERFORMING ORGANIZATION  
REPORT NUMBER****9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)**U.S. Army Medical Research and Materiel Command  
Fort Detrick, Maryland 21702-5012**10. SPONSORING / MONITORING  
AGENCY REPORT NUMBER****11. SUPPLEMENTARY NOTES**

20030122 090

**12a. DISTRIBUTION / AVAILABILITY STATEMENT**

Approved for Public Release; Distribution Unlimited

**12b. DISTRIBUTION CODE****13. Abstract (Maximum 200 Words) (abstract should contain no proprietary or confidential information)**

Funds were provided to support a conference presenting the most current scientific information from laboratories investigating the action of chemical and biological weapons. This conference will be held at the International Public Health Research Institute in Newark NJ on March 20 and 21, 2003. A description of the conference, including the list of speakers and their topics is attached to this final report. The editors of Life Sciences have agreed to devote a special volume to presenting the proceedings of the conference. A copy of this volume will be forwarded upon its publication.

**14. SUBJECT TERMS**

biology, chemical weapons, biologic weapons

**15. NUMBER OF PAGES**

7

**16. PRICE CODE****17. SECURITY CLASSIFICATION  
OF REPORT**

Unclassified

**18. SECURITY CLASSIFICATION  
OF THIS PAGE**

Unclassified

**19. SECURITY CLASSIFICATION  
OF ABSTRACT**

Unclassified

**20. LIMITATION OF ABSTRACT**

Unlimited

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)  
Prescribed by ANSI Std. Z39-18  
298-102

AD \_\_\_\_\_

Award Number: DAMD17-02-1-0657

TITLE: Biology of Chemical and Biologic Weapons

PRINCIPAL INVESTIGATOR: Joseph J. McArdle, Ph.D.

CONTRACTING ORGANIZATION: New Jersey Medical School  
Newark, New Jersey 07103-2714

REPORT DATE: December 2002

TYPE OF REPORT: Final

PREPARED FOR: U.S. Army Medical Research and Materiel Command  
Fort Detrick, Maryland 21702-5012

DISTRIBUTION STATEMENT: Approved for Public Release;  
Distribution Unlimited

The views, opinions and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy or decision unless so designated by other documentation.

122 090

## Table of Contents

Cover.....	1
SF 298.....	2
Table of Contents.....	3
Introduction.....	4
Body.....	4
Key Research Accomplishments.....	7
Reportable Outcomes.....	7
Conclusions.....	7
References.....	7
Appendices.....	7

## **Introduction**

Funds were awarded to support a conference entitled: The Biology of Chemical and Biological Defense. The main objective of this conference is to assemble expert speakers in a format devoted to understanding the basic science of such weapons. The speakers who have agreed to speak have studied these agents for some time and have contributed to our understanding of their actions on man. The conference is open to the public and offers Continuing Medical Education Credits to physicians. Therefore, it is anticipated that this conference will foster clinical thinking and new research aimed at understanding the cellular/molecular action(s) of chemical and biological weapons. Such knowledge is essential for effective protection against and recovery from the effects of these weapons.

## **Body**

The notice for this conference is presented below.

### **The Biology of Chemical and Biological Defense**

Dates: March 20 and March 21, 2003

Sponsored by: Department of Pharmacology & Physiology, Department of Medicine, and the Biodefense Center, New Jersey Medical School (UMDNJ), The International Center for Public Health, Newark, NJ, Department of the Army (USAMRAA), Fort Detrick MD

Location: International Public Health Research Institute, Norfolk and Warren Streets and the New Jersey Medical School, 185 South Orange Avenue, Newark, New Jersey

Conference Objective: The overall objective of this conference is to present recent scientific data concerning the nature and action of, as well as protection against and

surviving chemical and biological weapons. To achieve this goal, the expert group of speakers listed below will present their research dealing with such agents.

Poster Presentation: Attendees wishing to present posters dealing with their work related to the conference subject are encouraged to do so. Please notify the conference organizers of an intention to do so.

Continuing Medical Education credits will be offered to those attending this conference.

The Editors of Life Sciences have agreed to devote a special issue to the conference proceedings.

### **Schedule**

#### **Thursday, March 20**

9:00 AM - Welcoming/Introductory Comments: Dr. Russell Joffe, Dean New Jersey Medical School

9:10 AM - "Bacillus Anthracis, A Bug With Attitude": Les Baillie, University of Maryland

10:00 AM - "Addressing The Threat of Anthrax": John Collier, Harvard University

10:50 AM - Coffee Break

11:00 - "Small Pox": Tom Denny, New Jersey Medical School

12:00 PM - Lunch

1:30 PM - "Bubonic Plague": Jeffrey J. Adamovicz, USAMRIID, Fort Detrick

2:30 PM - "SELDI Protein Chip Technology Applied To Chemical and Biological Defense": Anju Dang, CIPHERGEN Biosystems Inc.

3:30 PM - Posters and wine/cheese

7:00 PM - Speakers' Dinner

March 21

9:00 AM - "Cholinesterases Modified by Recombinant DNA and Chemical Modification Techniques to Serve As Sensors to Organophosphate Exposure and in Prophylaxis of Exposure Toxicity": Palmer Taylor, University of California at San Diego,

10:00 AM - "Rationale for Pyridostigmine Therapy Against Irreversible Cholinesterase Inhibitors": Edson X. Albuquerque, University of Maryland

10:50 AM - Coffee break

11:00 - "Mode of Action of Botulinum Neurotoxins at the Vertebrate Neuromuscular Junction": Jordi Molgo, CNRS, Gif-sur-Yvette, France

12:00 - Lunch

1:30 - "Structure-based Design of Inhibitors to the Cytotoxin Ricin": Jon Robertus, University of Texas at Austin

2:30 - "Development of a Novel Ricin Vaccine": Charles Millard, USAMRIID, Fort Detrick

3:30 - Panel discussion

4:30 - Conclusion of conference

### **Key Research Accomplishments**

The conference is educational and has no immediate research goals

### **Reportable Outcomes**

These will be unavailable until after the conference takes place on 20 and 21 March, 2003.

### **Conclusions**

This conference is primarily educational in nature. It is anticipated that the conference will foster interactions between scientists and clinicians. We hope that such interactions will lead to new and more effective ways to protect against and successfully repair human injuries resulting from chemical or biological weapon attacks.

### **References**

Not applicable

### **Appendices**

None